

CLAIMS

1. A method of bridging an incoming packet from a first network to a second network, the method comprising the steps of:

(A) reading a pointer for a first parameter within said incoming packet;

5 (B) processing said first parameter in accordance with said pointer to produce a second parameter; and

(C) presenting an outgoing packet containing said second parameter for said second network in response to step (B).

2. The method according to claim 1, further comprising the steps of:

reading a length and an offset for said first parameter;

5 partitioning said incoming packet in accordance with said offsets and said lengths to extract said first parameter prior to processing.

3. The method according to claim 2, further comprising the step of downloading said offset, said length, and said pointer prior to reading.

4. The method according to claim 1, further comprising the steps of:

routing said first parameter to at least one of a plurality of peripheral blocks identified by said pointer prior to processing, wherein said peripheral blocks perform said processing;
5 and

assembling said second parameter into said outgoing packet in response to processing.

5. The method according to claim 4, further comprising the step of reading a second offset and a second length for a second network protocol prior to assembling said outgoing packet.

6. The method according to claim 4, further comprising the step of routing said first parameter to an external peripheral block identified by said pointer prior to processing, wherein said external peripheral block performs said processing.

7. The method according to claim 1, wherein step (B) is at least two processes of a content addressable memory process, a time to live process, a comparison process, a counter process, a

value swapping process, a stuffing process, a de-stuffing process,
5 a cyclic redundancy checksum process, a parity process, a first-in-
first-out process, a length construction generator process, a
header error control synchronization process, a frame relay lookup
process, a data link connection identifier process, a protocol
identification analysis process, a point-to-point protocol
10 verification process, a parameter discard process, and a buffer
process.

8. The method according to claim 1, wherein step (B) is
simultaneously processing a plurality of first parameters within
said incoming packet.

9. The method according to claim 1, wherein step (B) is
non-programmable.

10. The method according to claim 1, further comprising
the step of delineating a receive frame from said first network to
produce said incoming packet prior to processing.

11. The method according to claim 10, further comprising the step of selecting among a plurality of frame delineation methods for a plurality of network protocols prior to delineating.

12. The method according to claim 10, further comprising the step of delineating a second receive frame from said second network to produce said incoming packet.

13. The method according to claim 1, further comprising the step of framing said outgoing packet to produce a transmit frame for said second network in response to presenting said outgoing packet.

14. The method according to claim 13, further comprising the step of selecting among a plurality of framing methods for a plurality of network protocols prior to framing.

15. The method according to claim 14, further comprising the step of framing said output packet to produce a second transmit frame for said first network in response to presenting said outgoing packet.

0325.00483
CD01055

16. A circuit comprising:

means for reading a pointer for a first parameter within
an incoming packet compliant with a network protocol;

means for processing said first parameter in accordance
5 with said pointer to produce a second parameter; and

means for presenting an outgoing packet containing said
second parameter.

0325.00483-03401
T04E90-29E9360